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ALCOHOL TABLES;

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THE PERCENTAGES OF ABSOLUTE ALCOHOL,

BY WEIGHT AND VOLUME,

AND OF PROOF SPIRIT.

OTTO HEHNER, F.C.S.

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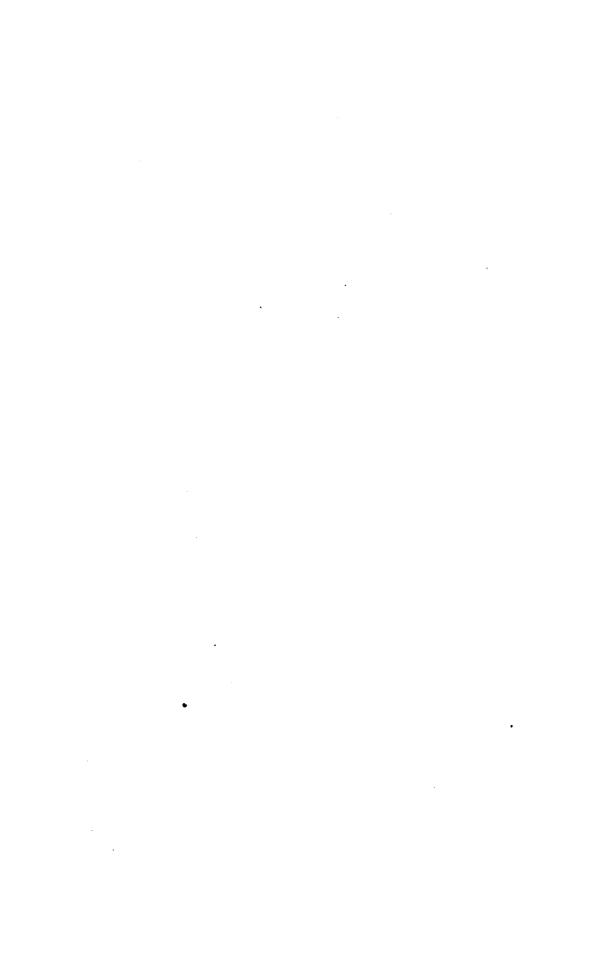
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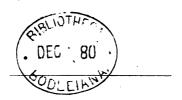
ABSOLUTE ALCOHOL, BY WEIGHT AND VOLUME, AND OF PROOF SPIRIT,

FOUNDED UPON THE TABLES OF FOWNES AND DRINKWATER,

AND CALCULATED BY

OTTO HEHNER, F.C.S.,

Fellow of the Institute of Chemistry of Great Britain and Ireland; one of the Council of the Society of Public Analysts; Public Analyst for the Isle of Wight and the Borough of Ryde; Co-Author of "Butter, its Analysis and Adulterations," &c., &c.



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INTRODUCTION.

Every chemist who has to make alcohol determinations, must have felt the want of complete Alcohol Tables, such as would give for all possible specific gravities from pure water to absolute alcohol, the percentages of alcohol by weight, by volume, and of proof spirit. A great number of elaborate tables are in existence, and are to be found in every comprehensive work on chemistry, but there is none, as far as I am aware, which answers the requirements, giving at a glance the data above mentioned, without entailing the trouble of a calculation.

To meet that want, the following tables have been compiled and calculated.

The excellent tables of Fownes—giving the percentages by weight, of Gay Lussac—giving volumina, and of Drinkwater, are all at present in use, but unfortunately they do not agree absolutely with each other: thus, for instance, absolute alcohol according to Fownes and Kopp has a specific gravity at 15.5° C. of 0.7988, and according to Gay Lussac of 0.7946. All later investigators having confirmed the general accuracy of Fownes' table (which gives whole percentages only), this has been taken as the basis of calculation. But it became necessary to include in the table the specific gravity of proof spirit, which according to Drinkwater is 0.9198, corresponding to 49.24 per cent. of alcohol by weight, in the tables, since all excise calculations are based upon proof spirit. According to Fownes, however, a specific gravity of 0.9198 does not correspond to 49.24 per cent. of alcohol, but to 49.37 per cent. This figure was consequently dove-tailed into the tables with as low gradients as possible.

The following rules were followed in the calculations.

To convert—
Weight into volume = $\frac{\text{Specific gravity} \times \text{per cent. weight.}}{0.7938}$

Volume into weight = $\frac{0.7988 \times \text{per cent. volume.}}{\text{Specific gravity.}}$

Volume into proof spirit = per cent. volume $\times 1.7525$.

Weight into proof spirit = per cent. weight × specific gravity × 2.20771.

Degrees under proof are obtained by subtracting percentages of proof spirit lower than 100 from that figure, and degrees over proof by the subtraction of 100 from percentages of proof spirit lying between proof and absolute alcohol.

All figures were calculated to the third decimal, and then abbreviated to the second.

The greatest possible care has been taken to exclude mistakes, and although it can hardly be hoped that such be entirely absent—considering that the table includes thousands of figures—they will, it is hoped, in no case, be found serious.

No originality whatever is claimed for these tables, and if they be but found to save some trouble and calculation, the large amount of work which they embody will not have been expended in vain.

54, Holborn Viaduct, London, E.C. OTTO HEHNER.

ALCOHOL TABLES.

Gravity 30° F. = 5.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
)000	0.00	0.00	0.00				
· 99 99	0.05	0.07	0.12	·9959	2.33	2 [.] 93	5.13
8	0.11	0.13	0.23	8	2.39	3.00	5.25
7	0.16	0.20	0.35	7	2.44	3.07	5.37
6	0.21	0.26	0.46	6	2.50	3.14	5.49
5	0.26	0.33	0.58	5	2.56	3.21	5.61
4	0.32	0.40	0.70	4	2.61	3.28	5.74
3	0.37	0.46	0.81	3	2.67	3.35	5.86
2	0.42	0.53	0.93	2	2.72	3.42	5.98
1	0.47	0.60	1.04	1	2.78	3.49	6.10
0	0.53	0.66	1.16	0	2.83	3.55	6.22
9989	0.58	0.73	1.28	·9949	2 [.] 89	3.62	6.34
8	0.63	0.79	1.39	8	2.94	3.69	6.47
7	0.68	0.86	1.51	7	3.00	3.76	6.58
6	0.74	0.93	1.62	6	3.06	3.83	6.72
5	0.79	0.99	1.74	5	3.12	3.90	6.84
4	0.84	1.06	1.86	4	3.18	3.98	6.97
3	0.89	1.13	1.97	3	3.24	4.05	7.10
2	0.95	1.19	2.09	2	3.29	4·12	7.23
1	1.00	1.26	2.20	1	3.35	4.20	7.36
0	1.06	1.34	2.34	0	3.41	4.27	7.49
9979	1.12	1.42	2.48	.9939	3.47	4.34	7.61
8	1.19	1.49	2.61	8	3.53	4.42	7.74
7	1.25	1.57	2.75	7	3.59	4.49	7.87
6	1.31	1.65	2.89	6	3.65	4.56	8.00
5	1.37	1.73	3.03	5	3.71	4.63	8.13
4	1.44	1.81	3.16	4	3.76	4.71	8.26
3	1.50	1.88	3.30	3	3.82	4.78	8.38
2	1.56	1.96	3.44	2	3.88	4.85	8.51
1	1.62	2.01	3.58	1	3.94	4.93	8.64
0	1.69	2.12	3.71	0	4.00	5.00	8.77
9969	1.75	2.20	3.85	.9929	4·06	5.08	8.90
8	1.81	2.27	3.99	8	4.12	5.16	9.04
7	1.87	2.35	4.12	7	4.19	5.24	9.18
6	1.94	2.43	4.26	6	4.25	5.32	9.31
5	2.00	2.51	4.40	5	4.31	5.39	9.45
4	2.06	2.58	4.52	4	4.37	5.47	9.58
3	2.11	2.62	4.64	3	4.44	5.55	9.72
2	2.17	2.72	4.76	2	4.50	5.63	9.86
1	2.22	2.79	4.89	1	4.56	5.71	9.99
0	2.28	2.86	5.01	0	4.62	5.78	10.13

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
·9919	4.69	5.86	10.26	·9869	8.00	9.95	17.43
8	4.75	5.94	10.40	8	8.07	10.03	17.58
7	4.81	6.02	10.54	7	8.14	10.12	17.74
6	4.87	6.10	10.67	6	8.21	10.21	17.89
5	4.94	6.17	10.81	5	8-29	10.30	18.04
4	5.00	6.24	10.94	4	8.36	10.38	18.20
3	5.06	6.32	11.08	3	8.43	10.47	18.35
2	5.12	6.40	11.21	2	8.50	10.56	18.50
1	5.19	6.48	11.35	1	8.57	10.65	18.65
. 0	5.25	6.55	., 11.49	0	8.64	10.73	18.81
.9909	5.31	6.63	11.62	-9859	8.71	10.82	18-96
8	5.37	6.71	11.76	8	8.79	10.91	19.11
7	5.44	6.78	11.89	7	8.86	11.00	19.27
6	5.50	6.86	12.03	6	8.93	11.08	19.42
5	5.56	6.94	12.16	5	9.00	11.17	19.58
4	5.62	7.01	12.30	4	9.07	11.26	19.73
3	5.69	7.09	12.43	3	9.14 .	11.35	19.89
2	5.75	7.17	12.57	2	9.21	., 11.44	20.04
1	5.81	7.25	12.70	1	9.29	11.52	20.19
0	5.87	7.32	12.84	0	9.36	11.61	20.35
.9899	5.94	7.40	12.97	.9849	9.43	11.70	20.50
8	6.00	7.48	13.11	8	9.50	11.79	20.65
7	6.07	7.57	13.27	7	9.57	11.87	20.81
6	6.14	7.66	13.42	6	9.64	11.96	20.96
5	6.21	7.83	13.57	5	0.70	12.05	21.97
4	6.36	7.99	., 13.73	4	9.79	12.22	21.42
8	6.43	8:01	14:04	3	9.86	12.31	21.42
$\begin{bmatrix} 2\\1 \end{bmatrix}$	6.43	8.10	14.19	1	9.93	12.31	21.57
0	0.57	0.10	14.19	0	10.00	10.40	01.00
		100				10.00	
.9889	6.64	8.27	14.50	.9839	10.15	12.58	22.06 .
8	6.79	8.36	14.66	8 7	10.23	12.68	22.22
7	6.86	8.45	14.81	7	10.38	12.87	22.38
6	6.93	8.63	15.12	6 5	10:46	12.96	22.55
5	7:00	8.63	15.27	5	10.54	13.05	22.71
4 3	7.00	8.72	15.42	3	10.54	13.05	22.88
3 2	7.10	8.88	15.42	3 2	10.62	19.04	23.04
1	7.13	0.0 (0.00)	15.70	1	PROCESS, CO.	10.0 000.042.000	The second decrease of the
0		9.04	15.70	0	10.77	13.43	23.54
-				1	100000		
·9879	7.33	COLUMN TO THE PARTY OF THE PART	15.99	.9829	10.92		23.70
8	7.40	9.21	16.14	8	THE STREET, S. S.		23.86
7	7.47	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16.28	7	11.08	13.71	24.03
6	7.53	9.37	16.42	6	11.15		24.19
5	7.60	The second contract of the second	16.57	5	11.23	the back to the first of	and the second second
4	7.67	9.54	16.71	4	The second second second	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	24.52
3	7.73	9.62	16.86	3	11.38	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	24.69
2	7.80	9.70	17.00		11.46	the factor of the Contract of the	24.85
1			17.14	II -	CARREST LAND AND AND	14.27	The state of the s
0	7.93	9.86	17.29	0	11.62	14.37	25.18

ip. Gravity .t 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
·9819	11.69	14:46	25·34	·9769	15.75	19·39	33.96
8	11.77	14.56	25.51	8	15.83	19.49	34·14
. 7	11.85	14.65	25.67	. 7	15.92	19.59	34.32
6	11.92	14.74	25.83	6	16.00	19.68	34.50
5	12.00	14.84	26.00	5	16.08	19.78	34.66
4	12.08	14 93	26.17	4	16.15	19.87	34.82
3	12.15	15.02	26.33	8	16.23	19.96	34.98
2	12.23	15.12	26.49	2	16.31	20.06	35.14
1	12.31	15.21	26.66	1	16.38	20.15	35.31
0	12.38	15.30	26.82	0	16.46	20.24	85.47
·9809	12·46	15.40	26·99	·9759	16· 54	20.33	35.63
8	12.54	15.49	27.15	8	16.62	20-43	35.79
7	12.62	15.58	27.31	7	16.69	20.52	35.95
6	12.69	15.68	27.48	6	16.77	20.61	86.12
5	12.77	15.77	27.64	5	16.85	20.71	36.28
4	12.85	15.86	27.81	4	16.92	20.83	36.44
3	12.92	15.96	27.97	3	17.00	. 20 89	86.60
2	13.00	16.05	28.13	2	17.08	20.99	36.78
1	13.08	16.15	28.29	1	17.17	21.09	36.95
0	13·15	16.24	28.46	0	17.25	21.19	37.13
·9799	13·23	16.33	28 [.] 62	.9749	17:33	21·29	37·30
8	13.31	16.43	28.78	8	17.42	21.39	37.48
7	13.38	16.52	28.95	7	17.50	21.49	37.65
` 6	13.46	16.61	29·11	6	17.58	21.59	37.83
5	13.54	16.70	29.27	5	17.67	21.69	38.00
4	13.62	16.80	29.43	4	17.75	21.79	38.18
3	13.69	16.89	29.60	3	17.83	21.89	38.35
2	13.77	16.98	29.76	2	17.92	21.99	38.53
1	13.85	17.08	29.92	1	18.00	22.09	38.71
0	13.92	17.17	30.09	0	18.08	22.18	38.87
· 978 9	14.00	17·26	30.26	·9739	18 [.] 15	22-27	39.03
8	14.09	17.37	30.45	.8	18.23	22.36	39·13
7	14·18	17.48	30.64	7	18.31	22.46	39.35
6	14.27	17.59	30.83	6	18.38	22.55	39.51
5	14.36	17.70	31.03	5	18.46	22.64	89.68
4	14.45	17.81	31.22	4	18.54	22.73	39.84
3	14.55	17.92	31.41	3	18.62	22.82	40.00
2	14.64	18.03	31.61	2	18.69	22.92	40.16
1	14.73	18·14	31.80	1	18.77	23.01	
0	14.82	18.25	31 99	ó	18.85	23·10	40.48
.9779	14.91	18.36	32·19	.9729	18-92	23·19	40.64
8	15.00	18.48	32.38	8	19.00	23.28	40.80
7	15.08	18.58	32.56	7	19.08	23.38	40.98
6	15.17	18.68	32.73	6	19.17	23.48	41.15
5	15.25	18-78	32.91	5	19.25	23.58	41.33
4	15.33	18.88	33.08	4	19.33	23.68	41.50
3	15.42	18.98	33.26	!!	19.42	23.78	41.68
2	15.50	19.08	33.44	2	19.50	23.88	41.85
1	15.58	19.18	33.61	1	19.58		42.03
0		19.28			l	24.08	
•	, 01	1 20 20		1 0	19.01	Z±'U8	42.20

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	
·9719	19.75	24·18	42·38	.9669	23.69	28.86	50.57
8	19.83	24.28	42.55	8	23.77	28.95	50.73
7	19.92	24.38	42.73	7	23.85	29.04	50.89
6	20.00	24.48	42.90	6	23.92	29.13	51.05
5	20.08	24.58	43 07	5	24.00	29-22	51.21
4	20.17	24.68	43.25	4	24.08	29.31	51.37
3	20.25	24.78	43.42	3	24.15	29.40	51.53
2	20.33	24.88	43.60	2	24.23	29.49	51.69
. 1	20.42	24.98	43.77	· 1	24.31	29.58	51.84
0	20.50	25.07	43.94	0	24.38	29.67	52.00
·9709	20:58	25·17	44 [.] 12	·9659	24 [.] 46	29.76	52·16
8	20.67	25.27	44.29	8	24.54	29.86	52.32
7	20.75	25.37	44.47	7	24.62	29.95	52.48
6	20.83	25.47	44.64	6	24.69	30.04	52.64
ē	20.92	25.57	44.81	5	24.77	30·13	52.80
4	21.00	25.67	44.99	4	24.85	30.22	52.95
3	21.08	25.76	45.15	3	24.92	30.31	53.11
2	21.15	25.86	45.31	2	25.00	30.40	53.27
1	21.23	25.95	45.47	1	25.07	30.48	53.42
0	21.31	26.04	45.63	0	25.14	30.57	53.56
9699	21.38	26·13	45.79	·9649	25.21	30.65	53.71
8	21.46	26.22	45.95	8	25.29	30.73	53.86
7	21.54	26.31	46.11	7	25.36	30.82	54.00
6	21.62	26.40	46.27	6	25.43	30.90	54.15
5	21.69	26.49	46.43	5	23.50	30.98	54.30
4	21.77	26.58	46.59	4	25.57	31.07	54.44
3	21.85	26.67	46.75	3	25.64	31.15	54.59
2	21.92	26.77	46.91	2	25.71	31.23	54.74
1 0	22.00	26.86	47.07	1	25.79	31.32	54.88
	22.08	26.95	47.23	0	25.86	31.40	55.03
·9689	22·15	27.04	47.39	·9 63 9	25.93	31.48	55.18
8	22.23	27.13	47.55	8	26.00	31.57	55.32
7	22.31	27.22	47.70	7	26.07	31.65	55.46
6	22.38	27.31	47.86	6	26.13	31.72	55.59
5	22.46	27.40	48.02	5	26.20	31.80	55.73
4	22.54	27.49	48.18	-4	26.27	31.88	55.87
3	22.62	27.59	48.34	3	26.33	31.96	56.00
2	22.69	27.68	48.50	2	26.40	32.03	56.14
1	22.77	27.77	48.66	1	26.47	32·11	56.27
0	22.85	27.86	48.82	0	26.53	32·19	56.41
·9 67 9	22.92	27·95	48.98	·96 2 9	26.60	32.27	56.55
8	23.00	28.04	49.14	8	26.67	32.34	56.68
7	23.08	28.13	49.30	7	26.73	32.42	56.82
6	23.15	28.22	49.46	6	26.80	32.50	56.95
5	23.23	28.31	49.62	5	26.87	32.58	57.09
4	23.31	28.41	49.78	4	26.93	32.65	57.23
3	23.38	28.50	49.94	3	27.00	32.73	57.36
2	23.46	28.59	50·10	2	27.07	32.81	57.51
1)	23.54	28.68	50.25	1	27·14	32.90	57.65
0/	23:62	28.77	50.41	0	27.21	32.98	57.80

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
-9619	27.29	33.06	57.94	-9569	30.50	36.76	64.43
8	27.36	33.15	58.09	8	30-56	36.83	64.54
7	27.43	33.23	58.24	7	30-61	36.89	64.65
6	27.50	33.31	58.38	6	30.67	36.95	64.76
5	27.57	33-39	58.53	5	30.72	37.02	64.87
4	27.64	33.48	58.67	4	30.78	37.08	64.98
3	27.71	33.56	58.82	3	30.83	37.14	65.10
2	27.79	33.64	58.97	2	30.89	37.20	65.21
1	27.86	33.73	59-11	1	30.94	37.27	04.00
0	27.93	33.81	59-26	ō	31.00	37.34	65.43
9609	28.00	33.89	59.40	.9559	31.06	37.41	65.55
8	28.06	33.97	59.53	8	31.12	37.48	65.68
7	28.12	34.04	59.65	7	31.19	37.55	65.80
6	28.19	34.11	59.78	6	31.25	37.62	65.93
5	28.25	34.18	59.90	5	31.31	37.69	66.05
4	28.31	34.25	60.03	4	31.37	37.76	66.18
3	28.37	34.33	60-16	3	31.44	37.83	66-30
2	28.44	34.40	60.28	2	31.50	37.90	66.43
1	28.50	34.47	60.41	1	31.56	37.97	66.55
* 0	28.56	34.54	60.53	0	31.62	38.04	66.68
9599	28.62	34.61	60.66	.9549	31.69	38-11	66.80
8	28.69	34.69	60.79	8	31.75	38.18	66.93
7	28.75	34.76	60.91	7	31.81	38.25	67.05
- 6	28.81	34.83	61.04	6	31.87	38.33	67.17
5	28.87	34.90	61.16	5	31.94	38.40	67.30
4	28.94	34.97	61.29	4	32.00	38.47	67.42
3	29.00	35.05	61.42	3	32.06	38.53	67.55
2	29.07	35.12	61.55	2	32-12	38.60	67.67
1	29.13	35.20	61.69	1	32.19	38.68	67.80
0	29-20	35.28	61.82	0	32.25	38.75	67.92
9589	29.27	35.35	61.95	.9539	32.31	38.82	68.04
8	29.33	35.43	62.09	8	32.37	38.89	68.17
7	29.40	35.51	62-22	7	32.44	38.96	68-29
6	29.47	35.58	62.36	6	32.50	39.04	68.42
5	29.53	35.66	62.49	5	32.56	39.11	68.54
4	29.60	35.74	62-63	4	32.62	39.18	68-67
3	29.67	35.81	62.76	3	32.69	39-25	68.79
2	29.73	35.89	62.90	2	32.75	39.32	68.92
1	29.80	35.97	63.03	1		39.40	69.04
0	29.87	36.04	63.17	0	Manufacture of the second	39.47	69.16
9579	29.93	36·12	63.30	.9529	32.94	39.54	69.29
8	30.00	36.20	63.43	8	33.00	39.61	69-41
7	30.06	36.26	63.55	7	33.06	39.68	69-53
6	30.11	36.32	63.66	6	33.12	39.74	69-65
5	30.17	36.39	63.77	5	33.18	39.81	69.76
4	30.22	36.45	63.88	4	33.24	39.87	69.88
3	30-28	36.51	63.99	3	33-29	39.94	69-99
. 2	30.33	36.57	64.10	2	33.35	40.01	70-11
1	30.39	36.64	64.21	1	33.41	40.07	70.23
0	30.44	36.70		0	33-47	40-14	

 -		j i		1	~- I		
	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15·5° C	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
·9519	33.53	40.20	70.46	·9469	36.06	43.01	75.37
8	33.59	40.27	70.57	8	36.11	43.07	75·48
7	33.65	40.34	70.69	7	86.17	43.13	75.59
6	33.71	40.40	70.81	6	36.22	43.19	75.70
5	33.76	40.47	70.92	5	86.28	43.26	75.80
4	33.82	40.53	71.04	4	36.33	43.32	75.91
3	33.88	40.60	71.15	3	36.39	43.38	76.02
2	33.94	40.67	71.27	2	36.44	43.44	76.13
1 0		40.74	71·39	1	36·50 36·56	43.50	76-24
-				0		43.56	76.34
9509	34·10	40.84	71.58	·9459	36.61	43.63	76.45
8	34·14	40.90	71.67	8	36.67	43.69	76.56
7	34·19	40.95	71.76	7	36.72	43.75	76.67
6	34.24	41.00	71.85	6	36.78	43.81	76.78
5 4	24.00	41.05	71.94	5 4	36.83	43.87	76.00
3	34.38		72.04	3	36·89 36·94	43.93	77.10
2	34.43	,. 41·16 41·21	72.13	2	37.00		77·10 77·21
1	34.48	41.26	72.31	1	37.06	44.06	77.32
o	. 34.52 .	41.32	72.41	0	37.11	44.18	77.42
·9499	34·57	41·37	72·50	.9449	37.17	44.24	77.53
8	34.62	41.42	72.59	8	37.22	44.30	77.64
7	34.67	41.48	72.68	7	37.28	44.36	77.75
6	34.71	41.53	72.78	6	37.33	. 44.43	77.85
5	34.76	41.58	72.87	5	37.39	44.49	77.96
4	34.81	41.63	72.96	4	37.44	44.55	78.07
3	34.86	41.69	73.05	3	37.50	44.61	78·18
2	34.90	41.74	78·14	2	37.56	44.67	78·28
1	34.95	41.79	73.24	1	37.61	44.73	78-39
0	35.00	41.84	73.33	0	37.67	44.79	78.50
·9489	35.05	41.90	73.43	·9439	37.72	44.86	78.61
8	35.10	41.95	73.52	8	37.78	44.92	78.71
7	35.15	42.01	73.62	7	37.83	44.98	78-82
6	85.20	42.06	73.72	6	37.89	45.04	78-93
5	85.25	42·12	73.81	5	37.94	45.10	79.04
4	35.30	42.17	73.91	4	38.00	45.16	79.14
3	35.35	42.23	74.01	3	38.06	45.22	79.25
2	35.40		74·10	2		45.28	79.86
1 0		42.84		1		1	1
١			74·30	l)	38-22		
·9 4 79			74·39	·9429	38·28	1	
8		42.51	74.49	8	38-33	45.53	
7			74.59	7	38.39	45.59	
6			74.68	6	38.44	45.65	1
5			74.78	5	38.50	1	1
4			74.88	4	38.56		
3			74.97	3	38.61		
2			75.07	2	38.67		80-43
1		42.89		1	38.72	1	80.53
O)	36·00)	42·95	75·26	II 0	38.78	46.02	80.64

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.		Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
9419	38.83	46.08	80.75	·9369	41.35	48.80	85.53
8	38.89	46.14	80.86	8	41.40	48.86	85-62
7	38.94	46.20	80-96	7	41.45	48-91	85.71
6	39.00	46.26	81.07	6	41.50	48.97	85.81
5	39.05	46.32	81.17	5	41.55	49.02	85.90
4	39.10	46.37	81.26	4	41.60	49.07	86.00
3	39.15	46.42	81.36	3	41.65	49-13	86.09
2	39.20	46.48	81.45	2	41.70	49.18	86.18
1	39.25	46.53	81.55	1	41.75	49-23	86.28
0	39.30	46.59	81.64	0	41.80	49.29	86.37
9409	39.35	46.64	81.74	.9359	41.85	49.34	86.47
8	39.40	46.70	81.83	8	41.90	49.40	86.56
7	39.45	46.75	81.93	7	41.95	49.45	86.65
6	39.50	46.80	82.02	6	42.00	49.50	86.75
5	39.55	46.86	82-12	5	42.05	49.55	86.84
4	39.60	46.91	82.21	4	42.10	49-61	86.93
3	39-65	46.97	82-31	3	42.14	49.66	87.02
2	39.70	47.02	82-40	2	42-19	49.71	87.11 .
1	39.75	47.08	82.50	1	42-24	49.76	87-20 .
0	39-80	47.13	82.59	0	42.29	49.81	87.29 .
9399	39.85	47·18	82-69	-9349	42.33	49.86	87:37
8	39.90	47.24	82.78	8	42.38	49.91	87.46 .
7	39.95	47.29	82.88	7	42:43	49.96	87.55 .
6	40.00	47.35	82.97	6	42.48	50.01	87.64 .
. 5	40.05	47.40	83.07	5	42.52	50.06	87.73 .
4	40.10	47.45	83.16	4	42.57	50.11	87.82 .
3	40.15	47.51	83.26	3	42.62	50.16	87.91 .
2	40.20	47.56	83.35	2	42.67	50.21	88.00 .
1	40.25	47.62	83.45	1	42.71	50.26	88.09 .
0	40.30	47.67	83.54	0	42.76	50.31	88.18 .
9389	40.35	47.72	83.64	.9339	42.81	50.37	88.26 .
8	40.40	47.78	83.73	8	42.86	50-42	88.35 .
7	40.45	47.83	83.83	7	42.90	50.47	88.44 .
6	40.50	47.89	83.92	6	42.95	50.52	88.53 .
5	40.55	47.94	84.02	5	43.00	50.57	88.62 .
4	40.60	47.99	84-11	4	43.05	50.62	88.71 .
3	40.65	48.05	84.21	3	43.10	50.67	88.79 .
2	40.70	48.10	84.30	2	43.14	50.72	88.88 .
1	40.75	48.16		1	43.19	No. of the Control of	The second second
0	40.80	48-21	84.49	0	43.24	50.82	89.06 .
9379	40.85	Programme and the second of the second	84.58	.9329	43.29	50.87	89.15 .
8	40.90	March 1 and a Children and a feet	84.68	8	43.33	50.92	89-24 .
7	40.95	48.37	84.77	7	10.3 C. S.	50.97	89-33 .
6	41.00	48.43	84.87	6	43.43	51.02	89-41 .
5	41.05	48-48	84.96	5	43.48	The second secon	89.50 .
4		48.54		4	43.52		89-59 .
. 3		48.59	85.15	3	43.57	51.17	89.68 .
2		48.64	85.24	2	43.62		89.77 .
1		48.70			43.67	51.27	89.86 .
0	41.30	48.75	85.43	0	43.71	51.32	1 83.23

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume ; per cent,	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
·9319	.!43:76	51.38	90.03	9269	46.05	53.77	94-22
8	43.81	51.43	90.12	- 8	46.09	53.81	94.31
7	43.86	51.48	90.21	7	46.14	53.86	94.39
6	43.90	51.53	90.30	6	46.18	53.91	94.47
5	43.95	51.58	90.39	5	46.23	53.95	94.55
4	44.00	51.63	90.48	4	46.27	54.00	94.64
3	44.05	51.68	90.56	3	46.32	54.05	94.72
2	44.09	51.72	90.64	2	46.36	54.10	94.80
1	44.14	51.77	90.73	1	46.41	54.14	94.89
0	44.18	51.82	90.81	0	46.46	54.19	94.97
·9309	44.23	51.87	90-89	-9259	46.50	54.24	95.05
8	44.27	51.91	90.98	8	46.55	54.29	95.13
7	44.32	51.96	91.06	7	46.59	54.33	95.22
6	44.36	52.01	91.14	6	46.64	54.38	95.30
Ē	44.41	52.06	91.23	5	46.68	54.43	95.38
4	44.46	52.10	91.31	4	46.73	54.47	95.46
3	44.50	52.15	91.39	3	46.77	54.52	95.55
2	44.55	52.20	91.48	2	46.82	54.57	95.63
1	44.59	52-25	91.56	1	46.86	54.62	95.71
()	44.64	52-29	91.64	0	46-91	54.66	95.79
9299	44.68	52.34	91.73	.9249	46.96	54.71 .	95.88
8	44.73	52.39	91.81	8	47.00	54.76	95.96
7	44.77	52.44	91.90	7	47.05	54.80	96.04
6	44.82	52.48	91.98	6	47.09	54.85	96-12
5	44.86	52.53	92.06	5	47.14	54.90	96.21
4	44.91	52.58	92.15	4	47.18	54.95	96.29
3	44.96	52.63	92.23	3	47.23	54.99	96.37
2	45.00	52.68	92.31	2	47:27	55.04	96.45
0	45.00	52.72	92.40	1	47.32	55.09	96.53
	45.09	52.77	92.48	0	47.36	55.13	96-62
· 92 89	45.14	52.82	92.56	.9239	47.41	55.18	96.70
8	45.18	52.87	92.64	8	47.46	55.23	96.78
7	45.23	52.91	92.73	7	47.50	55.27	96-86
6	45.27	52.96	92.81	6	47.55	55.32	96.95
5	45.32	53.01	92.89	5	47.59	55.37	97.03
4	45.41	53.06	92.98	4	47.64	55.41	97-11
3	45.41	53.10	93.06	3	47.68	55.46	97.19
2	45.46	58.15	93.14	2	47.73	55.51	97.27
0	45.55	53.20	93.23	1 0	47.77	55.60	97.36
	45.55	53.24	93-31	1.0		1000	97.44
9279	45.59	53.29	93.39	-9229	47.86	55.65	97.52
8	45.64	53.34	93.48	8	47.91	55.69	97-60
7	45.68	53.39	93.56	7	47.96	55.74	97.68
6	45.73	53.43	93.64	6	48.00	55.79	97.77
5	45.77	53.48	93.73	5	48.05	55.83	97.85
4	45.82	58.53	93-81	4	48.09	55.88	97-93
3	45.86	58.58	93.89	3	48.14	55.93	98.01
2	45.91	53.62	93.98	2	48.18	55.97	98.09
1	45.96	53-67	94.06	1	48-23	56.02	98-18

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
-9219	48.32	56.11	98·34	9169	50 57	58.41	102.35
8	48.36	56.16	98.42	8	50.61	58.45	102.43
7	48.41	56.21	98.50	7	50.65	58.50	102.51
6	48.46	56.25	98.59	6	50.70	58.54	102.59
5	48.50	56.30	98.67	5	50.74	58.58	102.66
4	48.55	56.35	98.75	4	50.78	58.63	102.74
3	48.59	56.40	98.83	' 3	50.83	58.67	102.82
2	48.64	56.44	98.91	2	50.87	58.72	102.89
1	48-68	56.49	99.00	1	50.91	58.76	
. 0	48.73	56.54	99.08	Ō	50.96	58.80	103.05
9209	48.77	56.58	99·16	9159	51·00	5 8·85	103·12
8	48.82	56-63	99.24	8	51.04	58.89	103.20
7	48.86	56.68	99.32	7	51.08	58.93	103.27
6	48.91	56.72	99.41	6	51.13	58.97	103.34
5	48.96	56.77	99.49	5	51.17	59.01	103.41
4	49.00	56.82	99.57	4	51.21	59.05	103.49
3	49.04	56.86	99.64	3	51.25	59.09	103.56
2	49.08	56.90	99.71	2	51.29	59.14	103.63
1	49.12	56.94	99.78	1	51.33	59.18	103.71
0	49.16	56.98	99.86	0	51.38	1	103.78
9199	49.20	57.02	99·93	9149	51.42	59-26	103.85
100F. 8	49.24	57.06	100.00	8	51.46	59.30	103.92
7	49-29	57.10	100.08	7	51.50	59.34	104.00
6	49.34	57.15	100.17	6	51.54	59.39	
5	49.39	57.20	100.25	5	51.58	59.43	104.14
4	49.44	57.25	100.34	4	51.63	59.47	104.21
3	49.49	57.30	100.42	3	51.67	59.51	104.29
2	49.54	57.35	100.51	2	51.71	59.55	104.36
1	49.59	57.40	100.59	1	51.75	59.59	104.43
0	49.64	57.45	100.68	0	51.79	59.63	104.50
9189	49.68	57-49	100.76	·913 9	51.83	59.68	104·58
8	49.73	57.54	100.85	8	51.88	59.72	104.65
7	49.77	57.59	100.93	7	51.92	59.76	104.72
6	49.82	57.64	101.02	6	51.96	59.80	104 80
5	49.86	57.69	101·10	5	52.00	59.84	104.87
4	49.91	57.74	101·19	4	52.05	59.89	104.95
3	49.95	57.79	101.27	3	52.09	59.93	105.03
2	50.00	57.84	101.36	2	52·14	59.98	105.11
	50.04	57.88	101.43	1	52.18	60.02	105·19
0	50.09	58.92	101.51	0	52.23	60.07	105.27
9179	50.13	57.97	101·59	·9129	52·27	60·12	105·35
8	50.17	58.01	101.66	8	52.32	60·16	105.43
7	50.22	58.06	101.74	7	52.36	60.21	105.51
6	50.26	58.10	101.82	6	52.41	60.25	105.59
5	50.30	58.14	101.89	5	52.45	60.30	105.67
4	50.35	58.19	101.97	4	52.50	60.34	105.75
3	50.39	58.23	102.05	3	52.55	60.39	105.83
2	50.43	The Party of the P	102-12	2	52.59	60.44	
1	50.48		102·20	1	52.64	,	
	50.52			11	52.68 .		\

t 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent,	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C	Absolute Alcohol by weight; per cent. *	Absolute Alcohol by volume; per cent.	Proof Spirit
-9119	52.73	60.56	106.15	.9069	55.00	62.84	110.12 .
- 8	52.77	60-61	106-23	8	55.05	62.88	110.20 .
7	52.82	60.65	106.31	7	55.09	62-93	110.28 .
6	52.86	60.70	106.39	6	55.14	62.97	110-36 .
5	52-91	60.74	106.47	õ	55.18	63.02	110-44 .
4	52.95	60.79	106.55	4	55.23	63.06	110.52
3	53.00	60.85	106.63	3	55.27	63-11	110.60 .
2	53.04	60.89	106.71	2	55.32	63.15	110.68 .
1	53.09	60.93	106.78	1	55.36	63.20	110.76 .
0	53.13	60-97	106.86	0	55.41	63.24	110.84.
9109	53.17	61.02	106.93	-9059	55.45	63.28	110.92.
8	53.22	61.06	107.01	8	55.50	63.33	111.00 .
7	53.26	61.10	107.08	7	55.55	63.37	111.08.
6	53.30	61.15	107.16	6	55.59	63.42	111.16 .
5	53.35	61.19	107-23	5	55.64	63.46	111.24 .
4	53.39	61.23	107.31	4	55.68	63.51	., 111.32.
3	53.43	61.28	107.38	3	55.73 .	63-55	111.40 .
2	53.48	61.32	107.46	2	55.77	63.60	111.48 .
1	53.52	61.36	107.54	1	55.82	63.64	111.56 .
0	53.57	61.40	107.61	0	55.86	63-69	111.64 .
9099	53.61	61.45	107.69	.9049	55-91	63.73	111.71 .
8	53.65	61.49	107.76	8	55.95	63.78	111.79 .
7	53.70	61.53	107.84	7	56.00	63.82	111.87 .
6	53.74	61.58	107.91	6	56.05	63.87	111.95 .
5 4	53.78	61.62	107.99	5	56.09	63.91	112.03 .
3	53.83	61.66	108.06	4	56.14	63.96	112.10 .
2	53.91	61.71	108-14	3	56.18	64.00	112-18 .
1	53.96	61.75	108-21	1	56.23	64.05	112-26 .
0	54.00	61.84	108 29	0	56.27	64.09	112.34 .
9089	54.05	61.88	108.45	.9039	56.36	64·18	112.49 .
8	54.10	61.93	108.53	8	56.41	64.22	112.57 .
7	54.14	61.98	108.62	7	56.45	64.27	112.64 .
6	54.19	62.03	108.70	6	56.50	64.31	112.72 .
5	54.24	62.07	108.78	5	56.55	64.36	112.80 .
4	54.29	62-12	108.87	4	56.59	64.40	112.87 .
3	54.33	62.17	108.95	3	56.64	64.45	112-95 .
2	54.38	62.22	109.03	2	56.68	64.49	113.03 .
1	54.43	62.26	109.12	1	56.73	64.54	113-11 .
0	54.48	62.31	109-20	0	56.77	64.58	113.18 .
9079	54.52	62.36	109.28	.9029	56.82,	64.63	113.26 .
8	54.57	62.41	109.37	8	56.86	64.67	113.34 .
7	54.62	62.45	109.45	7	56.91	64.71	113.41 .
6	54.67	62.50	109.53	6	56.95	64.76	113.49 .
5	54.71	62.55	109.62	5	57.00	64.80	113.57 .
4	54.76	62.60	109.70	4	57.04	64.85	113.64 .
3	54.81	62.65	109.78	3	57.08	64.89	113.71 .
2	54.86	62.69	109.87	2	57.13	64.93	113.78 .
1	54.90	62.74	109.95	1	57.17	64.97	113.85 .
0	54.95	62.79	110.03	0	57.21	65.01	113.92

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
-90 19	57.25	65.05	113.99	-8969	59.43	67.15	117-68
8	57.29	65.09	114.06	8	59.48	67-19	117.76
7	57.33	65.13	114.13	7	59.52	67.24	117.83
6	57.38	65.17	114-20	6	59.57	67.28	117.90
5	57.42	65.21	114.27	5	59.61	67.32	117.98
4	57.46	65.25	114.34	4	59.65	67.36	118.05
3	57.50	65.29	114.41	3	59.70	67.40	118.12
2	57.54	65.83	114.48	2	59.74	67.44	118-20
1	57.58	65.37	114.55	1	59.78	67.49	118-27
0	57.63	65.41	114.62	, 0	59.83	67.53	118:34
· 9 009	57.67	65.45	114.69	-8959	59.87	67.57	118.41
8	57.71	65.49	114.76	8	59.91	67.61	118-49
7	57.75	65.53	114.83	7	59.96	67.65	118.56
6	57.79	65.57	114.90	6	60.00	67.69	118.63
5	57.83	65.61	114.97	5	60.04	67.73	118.70
4	57.88	65.65	115.04	4	60.08	67.77	118.77
3	57.92	65.69	115.11	3	60.13	67.81	118.84
2	57.96	65.73	115.18	2	60.17	67.85	118-91
1	58.00	65.77	115.26	1	60.21	67.89	118.98
0	58.05	65.81	115.33	0	60.26	67-93	119.05
· 8 999	58∙09	65.85	115.41	.8949	60.29	67.97	119·12
8	58.14	65.90	115.49	8	60.33	68.01	119-18
7	58.18	65.94	115.57	7	60.38	68.05	119.25
6	58.23	65.99	115.64	6	60.42	68.09	119.32
5	58.27	66.03	115.72	5	60.46	68.13	119.39
4	58.32	66.07	115.80	4	60.50	68-17	119.46
3	58.36	66.12	115.87	3	60.54	68.21	119.53
2	58.41	66.16	115.95	2	60.58	68.25	119.60
1	58.45	66.21	116.03	1	60.63	68-29	119.67
0	58.50	66.25	116.11	0	60-67	68.33	119.74
· 89 89	58 [.] 55	66.29	116.18	-8939	60.71	68.36	119.80
8	58.59	66.34	116.26	8	60.76	68.40	119.87
7	58.64	66.38	116.34	7	60.79	68.44	119-94
- 6	58.68	66.43	116.42	6	60.83	68.48	120.01
5	58.73	66.17	116.49	5	60.88	68.52	120.08
4	58.77	66.51	116.57	4	60.92	68.56	120.15
3	58.82	66.56	116.65	3	60.96	68.60	120-22
2	58.86	66.60	116.72	2	61.00	68.64	120.29
1	58.91	66.65	116.80	1	61.04	68.68	120.35
0	. 58.95	66.69	116.88	0	61.08	68.72	120.42
8979	59∙00	66.74	116-96	.8929	61.13	68.76	120.49
8	59.04	66.78	117.03	8	61.17	68.80	120.56
7	59.09	66.82	117:11	7	61.21	68-83	120-63
6	59·13	66.86	117.17	6	61.25	68.87	120.70
5	59.17	66.90	117.25	5	61.29	68.91	120.77
4	59.22	66.94	117.32	4	61.33	68.95	120.83
3	59.26	66.99	117:39	3	61.38	68.99	120.90
2	59.30	67.03	117.47	2	61.42	69.03	120.97
1	59.35	67.07	117.54	1	61.46	69.07	121.04
0	59.39	67.11	117.61	0	61.50	69.11	121.11

Sp. Gravity at 60° F. = 15·5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
· 89 19	61·54	69 [.] 15	121·18	·8869	63.74	71.22	124.80
8	61.58	69.19	121-24	8	63.78	71.26	124.87
7	61.63	69.22	121.31	7	63.83	71.30	124.94
6	61.67	69.26	121.38	6	63.87	71.34	125.02
5	61.71	69.30	121.45	5	63.91	71.38`	125.09
4	61.75	69.34	121.52	4	63.96	71.42	125·16
3	61.79	69.38	121.59	3	64.00	71.46	125-23
2	61.83	69.42	121.66	2	64.04	71.50	125·30
1	61.88	69.46	121.72	1	64.09	71.54	125.38
0	61.92	69.50	121.79	0	64·13	71.58	125.44
·8909	61 [.] 96	69·54	121.86	·8859	64·17	71·62	125·51
8	62.00	69.58	121.93	8	64.22	71.66	125.58
7	62 05	69.62	122.01	7	64.26	71.70	125.65
6	62.09	69.66	122.08	6	64.30	71.74	125.72
តី	62·14	69.71	122.16	5	64.35	71.78	125.79
4	62·18	69.75	122-23	4	64.39	71.82	125.86
3	62-23	69.79	122-31	3	64.43	71.86	125.93
2	62.27	69.84	122.38	2	64.48	71.90	126.01
1	62.32	69.88	122.46	1	64.52	71.94	126.08
0	62.36	69.92	122.53	0	64.57	71.98	126.15
·8899	62 [.] 41	69-96	122 [.] 61	·8849	64·61	72·02	126·22
8	62.45	70.01	122.68	. 8	64.65	72.06	126.29
7	62.50	70.05	122.76	7	64.70	72·10	126.36
6	62.55	70.09	122.84	6	64.74	72.14	126.43
5	62.59	70·14	122.91	5	64.78	72·18	126.50
4	62.64	70·18	122.99	4	64.83	72.22	126.57
3	62.68	70.22	123.06	3	64.87	72.26	126.64
2	62.73	70.27	123.14	2	64.91	72.30	126.71
1	62.77	70.31	123.21	1	64.96	72.34	126.78
0	62.82	70.35	123-29	0	65.00	72.38	126.85
·8889	62.86	70·40	123·36	·8839	65 [.] 04	72·42	126.92
8	62.91	70.44	123.44	۱ 8	65.08	72.46	126.99
7	62.95	70.48	123.52	7	65·13	72.50	127.05
6	63.00	70.52	123.59	6	65.17	72.54	127·12
5	63.04	70.57	123.66	5	65.21	72.58	127.19
4	63.09	70.61	123.73	4	65.25	72.61	127.25
3	63.13	70.65	123.80	3	65.29	72.65	127.32
2	63.17	70.69	123.88	2	65.33	72.69	127.39
1	63.22	70.73	123.95	1	65.38		127.45
0	63.26	70.77	124.02	0	65.42	72.77	127.52
· 88 79	63.30	70.81	124.09	·8829	65.46	72.80	127.59
8	63.35	70.85	124·16	8	65.50	72.84	127.65
7	63.39	70.89	124.23	7	65.54	72.88	127.72
6	63.43	70.93	124-30	6	65.58	72.92	127.79
5	63.48	70.97	124.37	5	65-63	72.96	127.85
4	63.52	71.01	124.44	4	65.67	72.99	127.92
3	63.57	71.05	124.52	3	65.71	73.03	127.99
2	63.61	71.09	124.59	2	65.75	73.07	128.05
1	63.65	71·13	124.66	1	65.79		
0/	63·70 /	71.17	124.73	0	65.83	73·15	128·19

Sp. Gravity at 60° F.= 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. =- 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
·8819	65.88	73·19	128.25	8769	68.00	75·12	131·64
8	65.92	73.22	128.32	8	68.04	75.16	131.71
7	65.96	73.26	128.39	. 7	68.08	75.19	131.77
6	66.00	73.30	128.45	6	68-13	75.23	131.84
5	66.04	73.34	128.52	5	68.17	75.27	131.90
4	66.09	73.38	128.59	4	68-21	75.30	131.97
3	66.13	73.42	128.66	3	68.25	75.34	132.04
2	66.17	73.46	128.73	2	68.29	75.38	132·10
1	66.22	73.50	128.80	1	68.33	75.42	132·17
0	66.26	73.54	128.87	0	68.38	75.45	132·23
·8809	66·30	73·57	1 2 8 [.] 94	.8759	68·42	75.49	132·30
8	66.35	73.61	129.01	8	68.46	75.53	132.36
7	66.39	73.65	129.08	. 7	68.50	75.57	132.43
6	66.43	73.69	129-15	6	68.54	75.60	132.49
5	66.48	73.73	129-22	5	68.58	75.64	132.56
4	66.52	73.77	129.29	4	68.63	75.68	132.63
3	66.57	73.81	129.36	3	68.67	75.72	132.69
2	66.61	73.85	129.43	2	68.71	75.75	132.76
1	66.65	73.89	129.50	1	68.75	75.79	132.82
0	66.70	73.93	129.57	0	68.79	75.83	132.89
-8799	66.74	73.97	129.64	·8749	68.83	75.87	132.95
8	66.78	74.01	129.71	8	68-88	75.90	133.02
7	66.83	74.05	129.78	7	68.92	75.94	133.08
6	66.87	74.09	129.85	6	68.96	75.98	133-16
5	66.91	74·13	129.92	5	69.00	76.01	133-21
4	66.96	74·17	129.99	4	69.04	76.05	133-28
3	67.00	74.22	130.06	3	69.08	76.09 ∣	133·34
2	67.04	74.25	130·13	2	69.13	76.13	133.41
1	67.08	74.29	130·19	1	69.17	76.16	133.47
0	67.13	74.33	130.26	0	69.21	76.20	133.54
-8789	67·17	74·37	130.33	·8739	69·25	76.24	133.60
8	67.21	74.40	130.39	8	69-29	76.27	133.67
7	67.25	74.44	130-46	7	69-33	76.31	133.73
6	67.29	74.48	130.52	6	69.38	76.35	133.80
5	67.33	74.52	130.59	. 5	69-42	76.39	133.86
4	67.38	74.55	130.66	4	69.46	76.42	133.93
8	67.42	74.59	130.72	8	69.50	76.46	133.99
2		74.63		2	69.54	76.50	134.06
1	67.50	74.67	130.85	1		76.53	134·12
0	67.54	74.70	130.92	0	69.63	76.57	134·19
-8779	67:58	74.74	130.98	·8729	69.67	76.61	134.25
8	67.63	1 1		8		76.65	134.32
7		74.82		7	69.75	i .	134.38
6			131.18	6		76.72	134.45
5		1 74.89		5		76.76	134.51
. 4	67.79	74.93		4	69.88		134.58
3		74.97		3	69.92		134.64
2		75.01		2	69.96	1 1	134.71
1	1	75.04		1	70.00		
0		75.08		. !	70.04	46.91	134.84
U	01.80	1 10.00 !	101.00	1 0	/ O.x		

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp.Gravity at 60° F. = 15.5° C	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
.8719	70.08	76.98	134.90	-8669	72·13	78.77	138.05
8	70.12	77.01	134.96	8	72-17	78.81	138.11
7	70.16	77.05	135.02	7	72-22	78.85	138.18
6	70.20	77.08	135.08	6	72-26	78.89	138.25
5	70.24	77.12	135.14	5	72.30	78.93	138.32
4	70.28	77.15	135.21	4	72.35	78.96	138.38
3	70.32	77.19	135.27	3	72.39	79.00	138.45
2	70.36	77.22	135.33	2	72.43	79.04	138.52
1	70.40	77.25	135.39	1	72.48	79.08	138.58
0	70-44	77-29	., 135.45	0	72.52	79.12	138.65
8709	7048	77.32	135.51	-8659	72.57	79.16	138.72
8	70-52	77.36	135.57	8	72.61	79.19	138.79
7	70.56	77.39	135-64	7	72.65	79.23	138.85
6	70.60	77.43	135.70	6	72.70	79.27	138.92
5	70.64	77.46	135.76	5	72.74	79.31	138.99
4	70.68	77.50	135.82	4	72.78	79.35	139.05
3	70.72	77.53	135.88	3	72.83	79.39	139.12
2	70.76	77.57	135.94	2	72.87	79-42	139.19
1	70.80	77.60	136.00	1	72.91	79.46	139.26
0	70.84	77.64	136.07	0	72.96	79.50	139-32
-8699	70.88	77.67	136.13	-8649	73.00	79.54	139.39
8	70.92	77.71	136-19	8	73.04	79.57	139.45
7	70.96	77.74	136.25	7	73.08	79.61	139.52
6	71.00	77.78	136.31	6	73.13	79.65	139.58
5	71.04	77.82	136.37	5	73.17	79.68	139.64
4	71.08	77.85	136.44	4	73.21	79.72	139.71
3	71.13	77.89	136.50	3	73.25	79.75	139.77
2	71.17	77.93	136.56	2	73.29	79.79	139.83
1	71.21	77.96	136.63	1	73.33	79.83	139.90
0	71.25	78.00	136.69	0	73.38	79.86	139.96
.8689	71.29	78.04	136.76	.8639	73.42	79.90	140.02
8	71.33	78.07	136.82	8	73.46	79.94	140.09
7	71.38	78.11	136.88	7	73.50	79.97	140.15
6	71.42	78.14	136-95	6	73.54	80.01	140.21
5	71.46	78-18	137-01	5	78.58	80.04	140-27
4	71.50	78.22	137.08	4	73.63	80.08	140.34
3	71.54	78.25	137.14	3	73.67	80-12	140-40
2	71.58	78-29	137.20	2	73.71	80.15	
1	71.63	78.33	137.27	1	73.75	For day on the	140-53
0	71.67	78.36	137.33	0	73.79	80.22	140-59
.8679	71.71	78.40	137.40	·8629	73 83	80.26	140.65
8	71.75	78.44	137-46	. 8	73.88	80.30	140-72
7	71.79	78.47	137.52	7	73.92	80.33	140.78
6	71.83	78.51	137.59	6	73.96	80.37	140.84
5	71.88	78.55	137-65	5	74.00	80.40	140.91
4	71.92	78.58	137.72	4	74.05	80-44	140.98
3	71.96	78.62	137.78	3	74.09	80.48	141.05
2	72.00	78.66	137.85	2	74.14	80.52	141-12
1	72.04	78.70	137.91	1	74.18	80.56	
0	72.09	78.73	137.98	0	74.23	80.60	141.26

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Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
·8 6 19	74.27	80.64	141.33	·8 5 69	76.50	82.58	14 4 ·72
8	74.32	80.68	141·40	8	76.54	82.61	144.78
7	74.36	80.72	141-47	7	76.58	82.65	144.84
6	74.41	80.76	141.54	6	76.63	82.69	144-91
5	74.45	80.80	141.61	5	76.67	82.72	144.97
4	74.50	80.84	141.68	4	76.71	82.76	145.03
3	74.55	80.88	141.75	8	76.75	82.79	145.09
2	74.59	80.92	141.82	2	76.79	82.83	145.15
1	74.64	80.96	141.89	1	76.83	82.86	145.22
ō	74.68	81.00	141.96	0		82.90	145.28
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· 86 09	74.73	81.04	142.03	.8559	76.92	82.93	145.34
8	74.77	81.08	142·10	8	76.96	82.97	145.40
7	74.82	81.12	142-17	7		83.00	145.46
· 6	74.86	81.16	142-24	6	77.04	83.04	145.52
5	74.91	81.20	142.31	5	77.08	83.07	145.59
4	74.95	81.24	142.38	4	77.13	83.11	145.65
3	75.00	81.28	142.45	3	77.17	83·14	145.71
2	75.05	81.32	142.52	2	77.21	83.18	145.77
1	75.09	81.36	142.59	1	77.25	83.21	145.83
0	75.14	81.40	142.66	0	77-29	83.25	145.89
· 8 599	75·18	81.44	142.73	·8549	77:33	83·28	145.96
8	75.23	81.48	142.79	8	77·38	83.32	146.02
7	75.27	81.52	142.86	7	77.42	83.36	146.08
6	75.32	81.56	142.93	6	77.46	83.39	146.14
5	75.36	81.60	143.00	5	77.50	83.43	146.20
4	75.41	81.64	143.07	4	77.54	83.46	146-26
3	75.45	81.68	143-14	3	77.58	83.50	146.32
2	75.50	81.72	143-21	2	77.63	83.53	146.39
1	75.55	81.76	143.28	1	77.67	83.57	146.45
0	75.59	81.80	143.35	0	77.71	83.60	146.51
· 85 89	75.64	81.84	143.42	·8 53 9	77.75	83 64	146.57
8	75.68	81.88	143-49	8	77.79	83.67	146.63
7	75.73	81.92	143.56	7	77.83	83.71	146.69
6	75.77	81.96	143.63	6	77.88	83.74	146.75
5	75.82	82.00	143.70	5	77.92	83.78	146.82
4	75.86	82.04	143.77	4	77.96	83.81	146.88
3	75.91	82.08	143.84	3	78.00	83.85	146.94
2	75.95	82-12	143.91	1	78.04	83.88	147.00
1	76.00	82.16	143.98	1	1	1	147.05
0	76.04	82·19	144.04	ō	78·12	83.94	147.11
_							
·8579	76.08	82.23	144.10		78·16		147.17
8	76.13	82.26	144·16	11	78.20	84.01	147.23
7	76.17	82.30	144-23	l .	78.24	84.04	147.29
6	76.21	82-33	144-29	6	78.28	84.08	147.34
5	76.25	82.37	144.35	5	78-32	84.11	147.40
4	76.29	82.40	144.41	4	78.36	84.14	
3	76.33	82.44		3	78.40	84·18	
2	76.38	82.47	144.54	2	78.44	84.21	147.57
1	76.42	82.51		1	78.48	84.24	147.63
0	76.46	82.54	144.66	l . o	78.52	84.27	147.69

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
·8519	78·56	84 [.] 31	147·75	·8469	80.58	85.97	150.67
8	78.60	84.34	147.80	8	80.63	86.01	150.73
7	78.64	84.37	147.86	7	80.67	86.04	150.79
6	78.68	84.41	147.92	6	80.71	86.08	150.85
5	78.72	84.44	147.98	5	80.75	86.11	150.91
4	78.76	84.47	148.03	4	80.79	86.15	150.97
3	78.80	84.51	148.09	3	80.83	86.18	151.03
2	78.84	84.54	148·15	2	80.88	86.22	151.09
1	78.88	84.57	148·21	1.	80.92	86.25	151·15
0	78.92	84.60	148-27	0	80.96	86.28	151.21
· 85 09	78.96	84.64	148.32	·8459	81.00	86.32	151·27
8	79.00	84.67	148.38	8	81.04	86.35	151.33
7	79.04	84.70	148·44	7	81.08	86.38	151.38
6	79.08	84.74	148.50	6	81·12	86.42	151.44
ត	79·12	84.77	148.56	5	81·16	86.45	151.49
4	79·16	84.80	148.61	4	81.20	86.48	151.55
. 3	79·20	84.83	148.67	3	81.24	86.51	151.61
. 2	79 24	84.87	148.73	2	81.28	86.54	151.66
. 1	79.28	84.90	148.79	1	81.32	86.58	151.72
0	79.32	84.93	148-84	0	81.36	86.61	151.78
·8 4 99	79·36	84.97	148.90	·8449	81·40	86.64	151.83
8	79.40	85.00	148.96	8	81.44	86.67	151.89
7	79.44	85.03	149.02	7	81.48	86.71	151.95
6	79.48	85.06	149.07	6	81.52	86.74	152.00
5	79.52	85·10	149·13	5	81.56	86.77	152.06
4	79.56	85.13	149·19	、4	81.60	86.80	152-11
3	79.60	85.16	149·25	3	81.64	86.83	152-17
2	79.64	85·19	149·27	2	81.68	86.87	152-23
1	79.68	85.23	149.32	1	81.72	86.90	152-28
0	79.72	85.26	149-38	0	81.76	86.93	152.34
·8489	79·76	85·29	149.44	·8439	81.80	86·96	152·40
8	79.80	85.33	149.50	8	81.84	86.99	152.45
7	79.84	85.36	149.56	7	81.88	87.03	152.51
6	79.88	85.39	149-61	6	81.92	87.06	152.57
5	79.92	85.42	149.67	5	81.96	87.09	152 62
4	79.96	85.46	149.73	4	82.00	87·12	152.68
8	80.00	85.49	149-82	3	82.04	87·15	152.73
2	80.04	85.53	149.88	2	82.08	87-18 · ·	152.79
1	80.08	85.56	149-94	1	82·12	87-21	152.84
0	80·13	85.59	150.00	0	82·15	87.24	152.89
·8479	80·17	85·63	1 5 0·06	·84 2 9	82.19	87·27	152.95
. 8	80.21	85.66	150-12	8	82.23	87:30	153.00
7	80.25	85.70	150·19	7	82.27	87:34	153.05
6	80.29	85.73	150-25	6	82.31	87.37	153-11
5	80-33	85.77	150-31	5	82.35	87·40	153·16
4	80-38	85.80	150.37	4	82.38	87.43	153.21
3	80.42	85.84	150.43	8	82·42	87.46	153.27
2	80.46	85.87	150-49	2	82.46	87.49	153.32
1	80.50	85.90	150-55	1	82.50	87.52	153.37
0	80.54	85.94	150.61	0	82.54	87.55	153·43

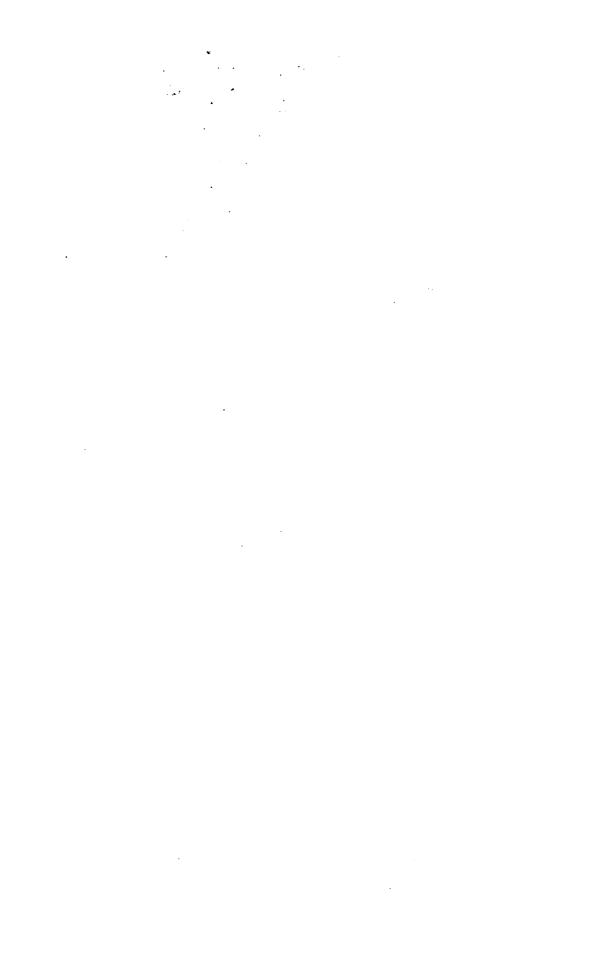
		Absolute Alcohol	Desigt Cont. 14	Sp. Gravity	Absolute Alcohol	Absolute Alcohol	
at 60° F. = 15.5° C.		by volume; per cent.	Proof Spirit; per cent.	at 60° F. = 15.5° C.	by weight; per cent.	by volume; per cent.	Proof Spirit per cent.
-8419	82.58	87.58	153.48	-8369	84.52	89.11	156.16 .
8	82.62	87.61	153.53	8	84.56	89-14	156-21.
7	82.65	87.64	153.59	7	84.60	89.17	156.27 .
6	82.69	87.67	153.64	6	84.64	89.20	156.33
5	82.73	87.70	153.69	5	84.68	89-24	156.38 .
4	82.77	87.73	153.75	4	84.72	89.27	156.44 .
3	82.81	87.76	153.80	3	84.76	89.30	156.49 .
2	82.85	87.79	153.85	2	84.80	89.33	156.55 .
1	82.88	87.82	153.91	1	84.84	89.36	156.60 .
0	82.92	87.85	153.96	0	84.88	89.39	156.66 .
-8409	82.96	87.88	154.01	·8359	84.92	89.42	156.71 .
8	83.00	87.91	154.07	8	84.96	89.46	156.77 .
7	83.04	87.94	154.12	7	85.00	89.49	156.82 .
6	83.08	87.97	154.17	6	85.04	89.52	156.87 .
5	83.12	88.00	154.23	5	85.08	89.55	156.93 .
4	83.15	88.03	154.28	4	85.12	89.58	156.98.
3	83.19	88.06	154.33	3	85.15	89.61	157.03 .
2	83.23	88.09	154.38	2	85.19	89.64	157.08.
1	83.27	88.13	154.44	1	85.23	89.67	157.13 .
0	83.31	88.16	154.49	0	85.27	89.70	157·19.
-8399	83.35	88-19	154.54	-8349	85.31	89.72	157·24.
8	88.38	88-22	154.60	8	85.35	89.75	157-29 .
7	83.42	88.25	154.65	7	85.88	89.78	157.34.
6	83.46	88.28	154.70	6	85.42	89.81	157.39 .
5	83.50	88.31	154.75	5	85.46	89.84	157.45 .
4	83.54	88.34	154.81	4	85.50	89.87	157.50.
3	83.58	88.37	154.86	3	85.54	89.90	157.55 .
2	83.62	88.40	154.91	2	85.58	89.93	157.60 .
1	83.65	88.43	154.97	1	85.62	89.96	157.65.
0	83.69	88.46	155.02	0	85.65	89.99	157.71 .
.8389	83.73	88.49	155.07	.8339	85.69	90.02	157.76.
8	83.77	88.52	155.13	8	85.73	90.05	157.81 .
7	83.81	88.55	155.18	7	85.77	90.08	157.86 .
6	83.85	88.58	155.23	6	85.81	90.11	157.91 .
5	83.88	88-61	155.28	5	85.85	90.14	157.97 .
4	83.92	88.64	155,34	4	85.88	90.17	158.02 .
3	83.96	88.67	155.39	3	85.92	90.20	158.07 .
2	84.00	88.70	155.44	2	85.96	90.23	158·12 .
1	84.04	88.73	155.50	1	86.00	90.26	158-17 .
0	84.08	88.76	155.55	0	86.04	90.29	158-23 .
·8379	84.12	88.79	155.61	.8329	86.08	90.32	158.28.
8	84.16	88.83	155.66	8	86.12	90.35	158.33 .
7	84.20	88.86	155.72	7	86.15	90.38	158.38 .
6	., 84.24	88.89	155.77	6	86.19	90.40	158-43 .
5	84.28	88.92	155.83	5	86.23	90-43	158.48.
4	84.32	88.95	155.88	4	86.27	90.46	158.53 .
3	84.36	88.98	155.94	3	86.31	90.49	158-59 .
2	84.40	89.01	155.99	2	86.35	90.52	158-64 .
1	84.44	89.05	156.05	1	86.38	90.55	158-69 .
0	84.48	89.08		0	86.42	90.58	l

·8319 8 7 6	86.46			15.5° C.	cent.	by volume; per cent.	per cent.
7		90.61	158.79	-8269	88.40	92.08	161-37
21	86.50	90.64	158.84	8	88.44	92-12	161.43
6	86.54	90-67	158.90	7	88.48	92.15	161.48
	86.58	90.70	158.95	6	88.52	92.18	161-53
5	86.62	90.73	159.00	5	88.56	92.21	161.59
4	86.65	90-76	159.05	4	88.60	92.24	161-64
3	86.69	90.79	159.10	3	88.64	92.27	161.70
2	86.73	90.82	159.15	2	88-68	92.30	161.75
1	86.77	90.85	159-20	1	., 88.72	92.33	161.80
0	86.81	90.88	159-26	0	88.76	92.36	161.86
·8309	86.85	90.90	159.31	·8259	88.80	92.39	161.91
8	86.88	90-93	159.36	8	88.84	92.42	161.96
7	86.92	90-96	159.41	7	88.88	93.45	162.02
6	86.96	90-99	159.46	6	88.92	92.48	162.07
5	87.00	91.02	159.51	5	88.96	92.51	162-12
4	87.04	91.05	159.57	4	89.00	92.54	162.18
3	87.08	91.08	159-62	3	89.04	92.57	162.23
2	87.12	91.11	159.67	2	89.08	92.60	162.28
1	87.15	91.14	159.72	1	89.12	92.63	162.33
0	87-19	91.17	159.77	0	89.16	92.66	162-38
.8299	87.23	91.20	159.82	8249	89.19	92.68	162.43.
8	87.27	91.23	159.87	8	89.23	92.71	162.48
7	87.31	91.25	159.92	7	89.27	92.74	162.53
6	87.35	91.28	159.97	6	89.31	92.77	162.58
5	87.38	91.31	160.02	5	89.35	92.80	162-63
4	87.42	91.34	160.08	4	89.38	92.83	162-68
3	87-46	91.37	160.13	3	89.42	92.86	162.73
2	87.50	91.40	160-18	2	89.46	92.89	162.78
1	87.54	91.43	160-23	1	89.50	92.91	162.83
0	87.58	91.46	160-28	0	89.54	92.94	162-88
·8289	87-62	91.49	160.33	·8239	89.58	92.97	162.93.
8	87.65	91.52	160-38	8	89.62	93.00	162-98
7	87.69	91.55	160-43	7	89.65	93.03	163.03
6	87.78	91.57	160-48	6	89.69	93.06	163.08
5	87.77	91.60	160.53	5	89.73	93.09	163.13
4	87.81	91.63	160.59	4	89.77	93.11	163.18
3	87.85	91.66	160.64	3	89-81	93.14	163.23
2	87.88	91.69	160-69	2	89.85	93.17	163.28
1	87.92	91.72	160.74	1	89.88	93.20	163.33
0	87-96	91.75	160-79	0	89.92	93.23	163-38
.8279	88.00	91.78	160.84	·8229	89.96	93.26	163.43.
8	88.04	91.81	160-89	8	90.00	93.29	163.48
7	88.08	91.84	160.95	7	90.04	93.31	163.53
6	88.12	91.87	161.00	6	90.07	93.34	163.57
5	88.16	91.90	161.05	5	90-11	93.36	163.62
4	88.20	91.93	161-11	4	90.14	93.39	163-66
3	88.24	91.96	161-16	3	90.18	93.41	163.70
2	88-28	91.99	161-21	2	90-21	93.44	163.75
0	88.32	92.02	161.27	1 0	90.25	93.47	163.79

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit per cent.
-8219	90.32	93.52	163.88	-8169	92.11	94.79	166.12.
8	90.36	98.54	163.93	8	92.15	94.82	166-17
7	90-39	93.57	163.97	7	92-18	94.84	166-21 .
6	90.43	93.59	164.02	6	92.22	94.87	166-26
5	90.46	93.62	164.06	5	92.26	94.90	166.30
4	90.50	93-64	164-11	4	92.30	94.92	166.35
3	90.54	93.67	164.15	3	92.33	94.95	166-40
2	90.57	93.70	164.20	2	92.37	94.98	166.44
1	90.61	93.72	164-24	1	92.41	95.00	166.49
0	90.64	93.75	164-29	0	92.44	95.03	166.53
-8209	90.68	93.77	164.33	-8159	92.48	95.06	166.58
8	90.71	93.80	164.38	8	92.52	95.08	166.63
7	90.75	93.82	164.42	7	92.55	95.11	166-67
6	90.79	93.85	164.47	6	92.59	95.13	166.72
5	90.82	93.87	164.51	5	92.63	95.16	166.76
4	90.86	93.90	164.56	4	92.67	95.19	166.81
3	90-89	93.93	164.60	3	92.70	95.21	166.86
2	90.93	93.95	164.65	2	92.74	95.24	166.90
1	90-96	93.98	164.69	1	92.78	95.27	166.95
0	91.00	94.00	164.74	0	92.81	95.29	167-00
-8199	91.04	94.03	164.78	·8149	92.85	95.32	167.04
8	91.07	94.05	164.83	8	92-89	95.35	167.09 .
7	91.11	94.08	164.87	7	92.92	95.37	167-13
6	91.14	94.10	164.91	6	92.96	95.40	167.18
5	91.18	94.13	164.96	5	93.00	95.42	167.23
4	81.21	94.15	165.00	4	93.04	95.45	167-27
3	91.25	94.18	165.05	3	93.07	95.48	167.32 .
2	91.29	94.21	165.09	2	93.11	95.50	167.36
1	91.32	94.23	165.14	1	93-15	95.53	167.41.
0	91.36	94.26	165.18	0	93.18	95.55	167-46 .
*8189	91.39	94.28	165.23	·8139	93.22	95.58	167.50.
8	91.43	94.31	165.27	8	93.26	95.61	167.55 .
- 7	91.46	94.33	165.31	7	93.30	95.63	167-59
6	91.50	94.36	165.36	6	93.33	95.66	167.64
5	91.54	94.38	165.40	5	93.37	95.69	167-69 .
4	91.57	94.41	165.45	4	93.41	95.71	167.73 .
3	91.61	94.43	165.49	3	93.44	95.74	167.78
2	91.64	94.46	165.54	2	93.48	95.76	167.82
1	91.68	94.48	165.58	1		95.79	167.87
0	91.71	94.51	165-62	0	93.55	95.82	167-92 .
8179	91.75	94.53	165.67	·8129	93.59	95.84	167.96 .
8	91.79	94.56	165.71	8	93.63	95.87	168.01 .
7	91.82	94.59	165.76	7	93.67	95.90	168.05 .
6	91.86	94.61	165.80	6	93.70	95.92	168-10.
5	91.89	94.64	165.85	5	93.74	95.95	168-15.
. 4	91.93		165.89	4	93.78	95.97	168-19 .
3	91.96	94.69	165-94	3	93.81	96.00	168-24.
2	92.00	1.4 (4.4) (4.4) (4.4)	165.98	2	93.85	96.03	168-28 .
1		94.74	166.03	1	93.89	96.05	168-33.
0	92.07	94.76	166.07	0	93.92	96-08	168.38 .

Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit per cent.
·8119	93.96	96·11	168·42	·8069	95.71	97·29	170.50
8	94.00	96.13	168-47	8	95.75	97.32	170.54
. 7	94.03	96.16	168-51	7	95.79	97.34	170.59
6	94.07	96.18	168.55	6	95.82	97:37	170.63
5	94·10	96.20	168.59	5	95.86	97.39	170-67
4	94.14	96.22	168-63	4	95.89	97.41	170.72
3	94·17	96.25	168-67	3	95.93	97.44	170.76
2	94.21	96.27	168.71	2	95.96	97.46	170.80
. 1	94.24	96.29	168.75	1	96.00	97.49	170.84
0	94.28	96.32	168·79	0	96.03	97.51	170.88
· 8 109	94·31	96·34	168·84	∙8059	96.07	97.53	170-92
8	94.34	96.36	168.88	8	96.10	97.55	170.96
7	94.38	96.39	168.92	7	96.13	97.57	171.00
6	94.41	96.41	168.96	6	96.16	97.60	171.03
5	94.45	96.43	169.00	5	96⋅20	97.62	171.07
4	94.48	96.46	169.04	4	96.23	97.64	171.11
3	94.52	96.48	169.08	3	96.26	97.66	171.15
2	94.55	96.50	169·12	2	96.30	97.68	171.19
1	94.59	96.53	169·16	1	96.33	97.70	171.22
0	94.62	96·55	169-20	0	96.37	97.73	171.26
·80 9 9	94.66	96.57	169·24	·8049	., 96.40	97.75	171.30
8	94.69	96.60 .:	169-28	8	96.43	97.77	171.34
7	94.73	96.62	169.32	7	96.46	97.79	171.37
6	94.76	96.64	169.36	6	96.50	97.81	171.41
5	94.80	96.67	169.40	5	96.53	97.83	171.45
4	94.83	96.69	169.44	4	96.57	97.86	171.49
3	94.86	96.71	169.48	3	96.60	97.88	171.53
2	94.90	\$6.74	169.52	2	96.63	97.90	171.56
1	94.93	96.76	169.57	1	96.66	97.92	171.60
0	94.97	96.78	169-61	0	96.70	97.94	171.64
· 80 89	95.00	96.80	169.65	⋅8039	96.73	97.96	171.68
8	95.04	96.83	169-69	8	96.76	97.98	171.72
7	95.07	96.85	169.73	7	96.80	98.01	171.75
6	95.11	96.88	169.78	6	96.83	98.03	171.79
5	95.14	96.90	169.82	5	96.87	98.05	171.83
4	95.18	96.93	169.86	4	96.90	98.07	171.87
3 2	95.21	96.95	169.90	3	96.93	98.09	171.91
	95.25	96.98 .,	169.95	2	96.96	98.11	171.94
1	95·29 95·32	97.00	169.99	1 0	97.00	98·14	171.98
.00=0						1	
.8079	95.36	97.05	170.07	·8029	97.07	98.18	172.05
8	95.39	1	170.12	8	97·10	98.20	172.09
7	95.43		170.16	7	97.13	98.22	172.13
6	95.46	97.12	170.20	6	97.16	98.24	172.17
5	95.50	97.15	170.25	5	97.20	98.27	172-20
4	95.54	1	170.29	4	97.23	98.29	172.24
3		97.20	170.33	3	97.26	I .	172.28
2		97.22	170.37	2	97.30	98.33	
1		07.07		1	97.33	1	172.35
0,	90.08) 97·2 7	170.46	li 7	1 97.97	98.37	1 112.99

Sp. Gravity at 60° F. = 15.5° C.		Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.	Sp. Gravity at 60° F. = 15.5° C.	Absolute Alcohol by weight; per cent.	Absolute Alcohol by volume; per cent.	Proof Spirit; per cent.
·8019	97.40	98.39	172.43	.7969	99.00	99.37	174.17.
8	97.43	98.42	172.47	8	99.03	99-39	174.21
7	97.46	98.44	172.50	7	99.06	99.41	174.24
6	97.50	98.46	172.54	6	99.10	99.43	174.28
5	97.53	98.48	172.58	5	99.13	99.45	174.31
4	97.57	98.50	172.62	4	99.16	99.47	174.35
3	97.60	98.52	172.65	3	99.19	99.49	174.38
2	97-63	98.54	172-69	2	99.23	99.51	174.42
1	97.66	98.56	172.73	1	99.26	99.53	174.45
0	97.70	98.59	172.77	0	99.29	99.55	174.49
-8009	97.73	98.61	172.80	.7959	99.32	99.57	174.52.
8	97.76	98.63	172.84	8	99.36	99.59	174.55
7	97.80	98.65	172.88	7	99.39	99.61	174.59
6.	97.83	98.67	172.92	6	99-42	99.63	174.62
5	97.87	98.69	172.95	5	99.45	99.65	174.66
4	97.90	98.71	172-99	4	99.48	99.67	174-69 .
3	97.93	98.74	173.03	3	99.52	99.69	174.73 .
2	97.96	98.76	173.07	2	99.55	99.71	174.76 .
1	98.00	98.78	173.10	1	99.58	99.73	174.80 .
0	98.03	98.80	173.14	0	99.61	99.75	174.83 .
7999	98.06	98.82	173.17	.7949	99.65	99.77	174.87.
8	98.09	98.83	173.20	8	99.68	99.80	174.90 .
7	98.12	98.85	173-24	7	99.71	99.82	174.94 .
6	98.16	98.87	173-27	6	99.74	99.84	174.97
5	98.19	98.89	173.30	5	99.78	99.86	175.01 .
4	98.22	98.91	173.34	4	99.81	99.88	175.04 .
3	98.25	98.93	173.37	3	99.84	99.90	175.08 .
2	98.28	98.94	173.40	2	99.87 ,.	99.92	175.11 .
1	98.31	98.96	173.44	1	99.90	99.94	175.15.
0	98.34	98.98	173.47	0	99.94	99.96	175.18.
.7989	98.37	99.00	173.50	.7939	99.97	99.98	175.22.
8	98.41	99.02	173.54		Absolute	Alcohol.	
7	98.44	99.04	173.57	.7938	100.00	100.00	175.25.
6	98.47	99.05	173.60				
5	98.50	99.07	173.64				
4	98.53	99.09	173.67				
3	98.56	99-11	173.71				
2	98.59	99.13	173.74				
1	98.62	99.15	173.77	1			
0	98-66	99.16	173.81				
.7979	98.69	99.18	173.84)	
8	98.72	99.20	173.87				
7	98.75	99.22	173-91		1		
6	98.78	99.24	173-94				
5	98-81	99-26	173-97				
4	98.84	99.27	174.01				
3	98.87	99.29	174 04				
2	98.91	99-31	174.07				
1	98-94	99.33	174-11				
0	98.97	99.35	174.14	1	()		



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